Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A method for fabricating a ferroelectric capacitor in an integrated circuit, the method comprising:
fabricating a metal-oxide-semiconductor transistor on a substrate;
depositing an insulating layer on the metal-oxide-semiconductor transistor;
depositing a conducting layer on the insulating layer using a low temperature process; and
depositing a ferroelectric layer on the conducting layer using a low temperature process.

2. (Original) The method as set forth in Claim 1, wherein the depositing of an insulating layer comprises depositing a silicon dioxide layer.

3. (Original) The method as set forth in Claim 1, wherein the depositing of a conducting layer on the insulating layer comprises:
depositing a first conducting layer on the insulating layer; and
depositing a second conducting layer on the first conducting layer.

4. (Original) The method as set forth in Claim 3, wherein the depositing of a first conducting layer comprises depositing a platinum layer.

5. (Original) The method as set forth in Claim 3, wherein the depositing of a first conducting layer comprises depositing an iridium layer.

6. (Original) The method as set forth in Claim 3, wherein the depositing of a second conducting layer comprises depositing a layer of conducting oxide.

7. (Original) The method as set forth in Claim 6, wherein the depositing of a layer of conducting oxide comprises depositing a layer of lanthanum nickel oxide ($LaNiO_3$).

8. (Original) The method as set forth in Claim 6, wherein the depositing of a layer of conducting oxide comprises depositing a layer of iridium oxide (IrO_2).

9. (Currently Amended) The method as set forth in Claim 7, wherein the depositing of a layer of lanthanum ~~nitric~~ nickel oxide comprises depositing lanthanum nickel oxide by sputtering at a temperature of about 350°C.

10. (Original) The method as set forth in Claim 7, wherein the depositing of a layer of lanthanum nickel oxide comprises causing the lanthanum nickel oxide to form a perovskite phase.

11. (Original) The method as set forth in Claim 1, wherein the depositing of a ferroelectric layer comprises depositing a lead zirconate titanate layer.

12. (Original) The method as set forth in Claim 11, wherein the depositing of a lead zirconate titanate layer comprises depositing a lead zirconate titanate layer using metal organic chemical vapor deposition.

13. (Original) The method as set forth in Claim 11, wherein the depositing of a lead zirconate titanate layer comprises depositing a lead zirconate titanate layer using a process that operates at a temperature substantially in a range of about 450 °C to about 550 °C.

14-15. (Cancelled)

16. (Original) A manufacturing method for fabricating a ferroelectric capacitor in an integrated circuit, the method comprising:

fabricating a metal-oxide-semiconductor transistor on a substrate;

depositing an insulating layer on the metal-oxide-semiconductor;

depositing a conducting layer on the insulating layer using a process to cause at least part of the conducting layer to form a perovskite phase; and

depositing a ferroelectric layer on the conducting layer using a process to cause at least part of the ferroelectric layer to form a perovskite phase.

17. (Original) The manufacturing method as set forth in Claim 16, wherein the depositing of a conducting layer on the insulating layer comprises:

depositing a first conducting layer on the insulating layer; and

depositing a second conducting layer on the first conducting layer.

18. (Original) The manufacturing method as set forth in Claim 16, wherein the depositing of a conducting layer on the insulating layer is performed using a low temperature process.

19. (Original) The manufacturing method as set forth in Claim 18, wherein the depositing of a ferroelectric layer on the conducting layer is performed using a low temperature process.

20-21. (Cancelled)

22. (Original) The manufacturing method as set forth in Claim 16, wherein the depositing of a ferroelectric layer comprises depositing a lead zirconate titanate layer.

23-25. (Cancelled)